Press release
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EUROPEAN AFTER-BIOCHEM PROJECT
UPDATE AFTER 1 YEAR OF WORK

CIRCULAR BIOECONOMY | LOCAL | FLAGSHIP | AFTER-BIOCHEM PROJECT

AFTER-BIOCHEM Project: First stone for the 12 partners paving the way to a European production of natural bio-based products.

Launched in May 2020, the AFTER-BIOCHEM project aims to develop the first all-in-one biorefinery within the CHEMESIS industrial platform located in Carling Saint-Avold, France.

It will create multiple value chains based on transforming the sugar industry's co-products and other non-food biomass feedstock into bio-based and natural products for various applications.

AFTER-BIOCHEM's partners are pleased to share key outcomes from their first year of work.

FOCUS ON FIRST OUTCOMES

Flagship construction

AFTER-BIOCHEM and AFYREN announced the start of the AFYREN NEOXY biorefinery construction.

First construction preparation works began in September 2020 and will continue until the end of 2021. Currently, 10 companies are working on the site. The project's deadlines have been met, and the entire team is fully committed and proud of the progress made.

Here is a video showing the last progress: link

AFYREN received several key equipments for the future biorefinery, including storage for raw materials and evaporator.

A strong focus is made on safety to avoid any incident that could harm people during this phase of construction, which can be a area of significant and numerous risks, in view of the various construction constraints and human coactivities between the different companies. To date, there has been no accidents or incidents.

Recruitment campaign start

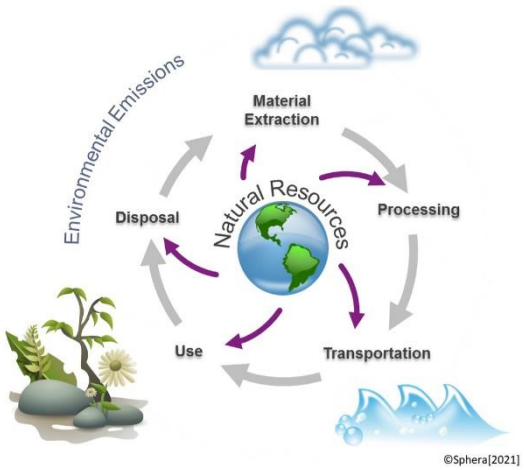
The AFTER-BIOCHEM project will create at least 60 direct jobs. The project is on track for success with already 10-15 jobs created, and in the coming months around 45 new positions will be opened to join AFYREN-NEOXYs' team.

Consolidation of the supply-chain

The feedstock supply for the plant has been secured: AFYREN and Südzucker have signed a long-term collaboration agreement to secure the supply of feedstock of to the AFYREN-NEOXY biorefineryfeedstocks. Südzucker is committed to supplying the sugar beet co-products and AFYREN is responsible for producing seven 100% bio-based organic acids in early 2022. This collaboration is a clear reflection of the commitment of AFTER-BIOCHEM's partners to strengthen the development of the project —more information: link.

Update on the organic acids' carbon footprint

AFTER-BIOCHEM's partner, Sphera, has updated the environmental performance evaluation of AFYREN's products using the Life Cycle Assessment (LCA) . The results have shown that their carbon footprint is on average 81% lower compared to fossil-based acids on the market. Further sustainability assessment will be carried out to get a better picture of the process's environmental impact—more information: link.



Project's next steps

The second year of the project will be focused on the construction of the plant, with production expected to begin in early 2022. To ensure a smooth start in 2022, the recruitment campaign will continue to accelerate in the coming months. The objective is to have the operating system and a manufacturing team ready by the end of 2021.

Partners will continue to reinforce the project value chain to ensure its replicability. To do so, Project partners will work together on the characterisation and the validation of the mineral co-product. They will also test the performance of the new fertiliser. KEMIN, FIRMENICH, CELANESE, and FIABILA will also start to implement validation & testing of the biobased organic acids and products produced using them to ensure they meet market requirements in various applications.

Finally, the LCA of AFYREN's organic acids will be completed by additional sustainability assessments. The main aim of the work will be to help investigate the sustainability of the flagship biorefinery using the three sustainability pillars: environmental performance, economic feasibility, and societal impact.

ABOUT AFTER-BIOCHEM

AFTER-BIOCHEM is a unique opportunity to turn current agricultural processing co-products into new product streams. The project core technology is based on 10 years of R&D at AFYREN. The technology can turn biomass into high added-value and natural products using its all-in-one cutting edge fermentation process based on natural micro-organisms (100% GMO-free process and products). The project will also implement a "zero waste" strategy based on an optimised production process; all the fermentation outputs are valorised into valuable products: seven organic acids and one mineral co-product that can be used respectively as ingredients and fertiliser. The biobased and natural compounds will have applications in various markets such as food and feed, fragrances and flavour, personal care, pharmaceuticals, and industrial chemicals.

AFTER-BIOCHEM will have several environmental impacts. Indeed, its integrated approach foresees a reduction in CO_2 emissions of at least 80%, compared to traditional fossil-based organic acid production. Furthermore, the "zero waste" strategy will result in a production process free of industrial process waste and directly avoid the releases of substances hazardous to the environment and health. Last but not least, AFTER-BIOCHEM will reduce the dependence on non-renewable, unsustainable resources by valorising agricultural by-products.

AFTER-BIOCHEMs' biorefinery will be built in the Grand-Est region, France, and the installation foresees 60 direct jobs and up to 200 indirect jobs in the manufacturing & construction/engineering sectors.

The 12 European project partners
3 SMEs: AFYREN NEOXY, PNO, SPHERA
8 Large industries: CELANESE, SUDZUCKER, FIRMENICH, SUEZ, KEMIN, TECHNIP ENERGIES, OMYA, FIABILA
1 cluster : IAR – The bioeconomy cluster

Duration: 48 months (From May 2020 to April 2024) | Total budget: € 20M | Total cost: € 33M

AFTER-BIOCHEM has received € 20M funding from the Bio Based Industries Joint Undertaking (BBI-JU) under grant agreement No 887432. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Bio Based Industries Consortium.

AFTER-BIOCHEM website: https://after-biochem.eu/

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